

REMARKS

The Title has been amended as requested by the Office. The specification has been amended to correct typographical errors. Claims 1 and 2 have been amended to remove extraneous marks and for further clarification of the invention. Claims 11-14 have been canceled, without prejudice to the filing of continuation applications. No new matter is added by these amendments. Claims 1-10 are pending.

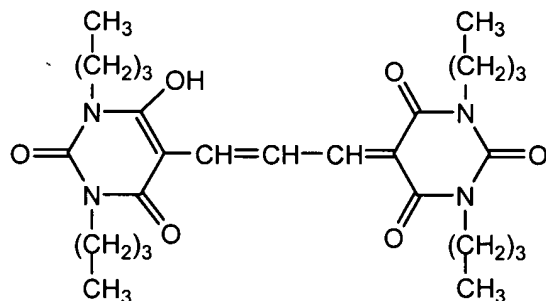
Turning to the Office Action, the Title of the Invention stands objected to; claims 1, 2, 4, and 8 stand rejected under 35 U.S.C. § 102(a) as being anticipated by DePoorter et al., *Journal of Microbiological Methods* 2001, 47, 233-241 ("DePoorter"); claims 3, 5, 6, 7, 9, and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of DePoorter in view of U.S. Patent 6,537,771 ("Farinas"); and claims 1-10 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Both the objection to the Title of the Invention, and the § 112, second paragraph, rejection of claims 1-10 have been overcome by the present amendments. Withdrawal of these objections and rejections is respectfully requested. The remaining rejections are addressed below.

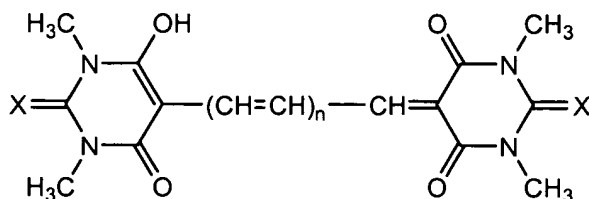
Rejection Under 35 U.S.C. § 102(a)

Claims 1, 2, 4, and 8 stand rejected as being anticipated by DePoorter. The Office asserts that all the features of the present claims are taught by DePoorter. Applicants respectfully disagree.

DePoorter describes methods for determining membrane potential in methogenic archaea. DePoorter, abstract. DePoorter uses DiBAC₄(3) to measure membrane potential. See DePoorter, abstract; p. 234, col. 1; page 235, col. 2; page 237, col. 1, etc. DiBAC₄(3) (bis(1.3-dibutylbarbituric acid)trimethine oxonol) has the structure:



The claimed invention relates to methods for measuring membrane potential using a compound of structure I as a potentiometric probe:



I

The compounds of formula I and the DiBAC₄(3) used in DePoorter are structurally different. Contrary to the Office's position, DePoorter does not disclose or suggest DiBAC₁(3), or any compounds of structure I. Thus, DePoorter does not teach every element of the claimed invention. The claims, therefore, are not anticipated by DePoorter. Withdrawal of the § 102(a) rejection is respectfully requested.

Rejection Under 35 U.S.C. § 102(a)

Claims 3, 5, 6, 7, 9, and 10 stand rejected as being unpatentable over DePoorter in combination with Farinas. The Office contends that DePoorter teaches determination of membrane potential of cells with DiBAC₁(3) and Farinas teaches Nernstein dyes, the use of DiSBAC₃(3) in combination with excitable Ca²⁺ indicators, and a microfluidic device having a pipettor channel and microwell plates. From this, the Office concludes the instant invention would have been obvious to a person of ordinary skill in the art. Applicants respectfully disagree.

As discussed above, and contrary to the Office's assertions, DePoorter does not teach or suggest the use of DiBAC₁(3) in the measurement of membrane potential. Rather, DePoorter uses the structurally different DiBAC₄(3). Farinas also does not teach or suggest the use of DiBAC₁(3), or any compounds of structure I, for the measurement of membrane

potential. Thus the combination of DePoorter and Farinas would not yield the claimed invention.

The use of compounds of structure I for the measurement of membrane potential, as presently claimed, would not have been obvious to a person of ordinary skill in the art. The inventors of the present invention discovered that DiBAC1(3) and DiSBAC1(3) possess unexpected properties useful for measuring membrane potential. See specification, page 3, lines 22-25. These compounds unexpectedly provide stronger signals and faster response times, as well as better water solubility, when compared to other dyes. See Id., and examples 5-8. These advantages are not described or suggested in the prior art. Thus a person of ordinary skill in the art would not have been motivated to arrive at the claimed invention, based on the teachings of the prior art. Accordingly, withdrawal of the § 103 rejection is respectfully requested.

For at least the above reasons, Applicants submit the claimed invention is not anticipated or rendered obvious by the cited references. Withdrawal of the rejections is therefore respectfully requested.

Allowance of the claims and passage of the case to issue are respectfully solicited. Should the Examiner believe a

discussion of this matter would be helpful, he is invited to telephone the undersigned at (312) 913-0001.

Respectfully submitted,

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